



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,018	10/17/2001	Hideki Takauchi	100021-00062	3806

7590

04/11/2002

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC
Suite 600
1050 Connecticut Avenue, N.W.
Washington, DC 20036-5339

EXAMINER

NGUYEN, MINH T

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 04/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/978,018		TAKAUCHI ET AL.	
	Examiner		Art Unit	
	Minh Nguyen		2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it includes phrase which can be implied, i.e., "is provided" on line 1. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2816

Claims 6, 8, 15 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 6, the terms “appropriate” recited on lines 3 and 6 renders the claim indefinite because it is unclear which sizes of the first and second transistors are considered “appropriate”.

As per claim 8, the terms “appropriate” recited on lines 3 and 6 renders the claim indefinite because it is unclear which sizes of the third and fourth transistors are considered “appropriate”.

As per claims 15 and 17, these claims are rejected for the same reasons noted in claims 6 and 8, respectively.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-4, 6, 8-13, 15 and 17-23 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,026,456 to Ilkbahar.

As per claim 1, Ilkbahar discloses a termination resistor circuit (Fig. 5), provided in an interface circuit (Fig. 2) through which signals are transferred (Fig. 2, the signals are transferred on the bus 205), comprising:

a first termination resistor block (transistors 542 and 544); and

a second termination resistor block (transistors 560 and 532) which differs in configuration from the first termination resistor block (transistor 560 is NMOS and transistor 532 is PMOS whereas transistors 542 and 544 are PMOSs);

wherein the termination resistor circuit is switched between the first and second termination resistor blocks because they are controlled by different control signals.

As per claim 2, since transistors 542 and 544 are PMOSs and connected in parallel, it is a symmetric load configuration, and since transistor 560 is NMOS and transistor 532 is PMOS and connected in parallel, it is a transfer gate configuration.

As per claim 3, the recited first transistor and second transistor having the same first conductivity type reads on transistor PMOS 542 and transistor PMOS 544, respectively; and

the recited third transistor having a first conductivity type and fourth transistor having a second conductivity type reads on PMOS 532 and NMOS 560, respectively.

As per claim 4, Ilkbahar further discloses the termination resistor circuit comprises a plurality of first termination resistor blocks (the circuit 540 has 16 transistors connected in parallel, column 9, lines 2, i.e., the circuit 540 comprises eight first termination resistor blocks arranged in parallel) and a plurality of second termination resistor blocks (column 9, lines 10-11, transistors 560 are split into 16 transistors, each combines with a respective one of the 16 transistors in the circuit 530 to have 16 second termination resistor blocks arranged in parallel),

Art Unit: 2816

and since the control circuit 520 controls the first and second plurality termination resistor blocks separately, they are controlled in an arbitrary manner.

As per claim 6, since the Ilkbahar's configuration shown in Fig. 5 is a working circuit, the sizes of the first and second transistors in each of the plurality of first termination resistor blocks are seen as "appropriate" sizes, and the weight of each of the plurality of the first termination resistor blocks is seen as "appropriate" weight.

As per claim 8, since the Ilkbahar's configuration shown in Fig. 5 is a working circuit, the sizes of the third and fourth transistors in each of the plurality of second termination resistor blocks are seen as "appropriate" sizes, and the weight of each of the plurality of the second termination resistor blocks is seen as "appropriate" weight.

As per claim 9, Ilkbahar further discloses the termination resistor circuit comprises a first termination resistor block (transistors 532 and 534) and a second termination resistor block (transistors 560 and 532). It is clear that the grouping of the first and second termination resistor blocks satisfies the limitation recited in the claim since transistors 532 and 534 are of the same type and transistors 560 and 532 are of different type, and transistor 532 is the recited common transistor.

As per claim 10, this claim is rejected for the same reasons noted in claim 1, and further, the recited signal transmission system is disclosed in Fig. 2, the recited transmitting circuit reads on the output driver 212, the recited transmission line reads on the bus 205, and the recited termination resistor circuit reads on the circuit 242 which is provided in the interface circuit 240.

As per claims 11-13, these claims are rejected for the same reasons noted in claims 2-4, respectively.

As per claims 15 and 17, these claims are rejected for the same reasons noted in claims 6 and 8, respectively.

As per claim 18, this claim is rejected for the same reason noted in claim 9.

As per claim 19, this claim is rejected for the same reasons noted in claim 1, and further, the recited signal transmission system is disclosed in Fig. 2, the recited transmission line reads on the bus 205, the recited receiving circuit reads on the circuit inside the circuit 260 which receives the signal transmitted on the bus 205, and the recited termination resistor circuit reads on the circuit 242 which is provided in the interface circuit 240.

As per claims 20-22, these claims are rejected for the same reasons noted in claims 2-4, respectively.

As per claim 23, this claim is rejected for the same reasons noted in claim 1, and further, the recited signal transmission system is disclosed in Fig. 2, the recited transmitting circuit reads on the output driver 212, the recited transmission line reads on the bus 205, the recited receiving circuit reads on the circuit inside the circuit 260 which receives the signal transmitted on the bus 205 and the recited termination resistor circuit reads on the circuit 242 which is provided in the interface circuit 240.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 7, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,026,456 to Ilkbahar.

As per claim 5, Ilkbahar discloses a termination resistor circuit which comprises elements and connections as discussed in claim 4 above wherein each of the plurality of the first termination resistor blocks comprises first and second transistors of the same conductivity type.

Ilkbahar does not explicitly teach that the first and second transistors are equal in size as called for in the claim.

However, choosing the size of transistors to obtain the optimized result in a circuit for a certain application in which the circuit has identical structure involves only routine experimentation, and is within the level of one skilled in the art. MPEP 2144.05.

It would have been obvious to one skilled in the art at the time of the invention was made to choose the size of the first and second transistors in the Ilkbahar's first termination resistor block to be the same.

The motivation/suggestion for doing so would have been obvious since it would have been easier to manufacture a lot of transistors having the same size than to manufacture a lot of transistors having different sizes.

As per claim 7, Ilkbahar discloses a termination resistor circuit which comprises elements and connections as discussed in claim 4 above wherein each of the plurality of the second termination resistor blocks comprises third and fourth transistors having different conductivity type.

Ilkbahar does not explicitly teach that the third and fourth transistors are equal in size as called for in the claim.

However, choosing the size of transistors to obtain the optimized result in a circuit for a certain application in which the circuit has identical structure involves only routine experimentation, and is within the level of one skilled in the art. MPEP 2144.05.

It would have been obvious to one skilled in the art at the time of the invention was made to choose the size of the third and fourth transistors in the Ilkbahar's second termination resistor block to be the same.

The motivation/suggestion for doing so would have been obvious since it would have been easier to manufacture a lot of transistors having the same size than to manufacture a lot of transistors having different sizes.

As per claims 14 and 16, these claims are rejected for the same reasons noted in claims 5 and 7, respectively.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,705,937 to Yap discloses a termination resistor circuit (Fig. 5) which includes a first termination resistor block (transistors 98 and 100) and a second termination resistor block (transistors 92, 90 and 94, 96) having different configurations.

US Patent No. 6,313,659 to Bosnyak et al. discloses a signal transmission system (Fig. 1) which includes a symmetric load configuration (Fig. 2B).

Art Unit: 2816

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is 703-306-9179. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Minh Nguyen
Examiner
Art Unit 2816

April 4, 2002